



THE LATEST SCOOP

1989 EDITION



ICE CREAM FOR AMERICA



One of the International Ice Cream Association's (IICA's) major objectives is increasing national sales and consumption of member companies' products—ice cream, ice milk, frozen yogurt, and other frozen desserts. ICE CREAM FOR AMERICA is a nationwide program that accomplishes this objective. Sponsored by Association members, ICE CREAM FOR AMERICA encourages the trade to strengthen ice cream promotions, and increases consumer awareness of ice cream and related products.

The ICE CREAM FOR AMERICA program's current focus is the "July is National Ice Cream Month" campaign. This campaign encourages retailers to increase in-store advertising and promotion, displays, and merchandising of ice cream and related products during July, National Ice Cream Month.

Retailers, wholesalers, and suppliers participate in the "July is National Ice Cream Month" campaign because it increases their profits. IICA also gives them another incentive: The Golden Cone Awards. These awards, presented each October, recognize the best "July is National Ice Cream Month" promotions.

In addition to these activities, the National Dairy Promotion and Research Board (NDB) has joined IICA in promoting ice cream. The NDB, funded by dairy farmers, dedicated \$5.8 million in 1989 to an extensive television and trade advertising campaign.

The ICE CREAM FOR AMERICA program and July, National Ice Cream Month are launched with the Capitol Hill Ice Cream Party in Washington, DC. More than 10,000 people attend the gala each year, including senators, representatives, Congressional staff members, government officials, and press.

THE LATEST SCOOP

W O R L D W I D E

FACTS & FIGURES ON ICE CREAM & RELATED PRODUCTS

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FOREWORD

Ice cream, with its universal appeal to all age groups, continues to grow in popularity. Record high sales of ice cream and related products were registered in 1988.

,"The Latest Scoop" reports the trends taking place in the industry and contains information on production and sales in the United States, Canada and 42 other countries, as well as economic data and other relevant information.

The International Ice Cream Association is the trade association for manufacturers and distributors of ice cream and other frozen dessert products. The Association's activities range from legislative and regulatory advocacy to market research and industry training and education. Its 210 member companies produce an estimated 85 percent of ice cream and related products consumed in the United States and Canada.

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HOW IT ALL STARTED

Ice cream probably evolved from chilled wines and other iced beverages. In the fourth century before Christ, Alexander the Great was reputed to be fond of iced beverages.

And, from ancient records, it is learned that in 62 A.D., the Roman Emperor, Nero, sent fleets of slaves to the mountains of the Apennines to fetch snow and ice which were then flavored with nectar, fruit pulp and honey.

Marco Polo, the 13th century bard and adventurer, brought with him to Europe from the Far East, recipes for water ices...said to be used in Asia for thousands of years. These water ices became popular in Venice and throughout Italy.

When Catherine de Medici married Henry II and became Queen of France in 1533, she brought with her recipes for Italian sherbet. It is said that her son, Henry III, was addicted to these delicacies and consumed them daily.

In 1660 the Cafe Procope was founded in Paris by an Italian named Coltell, and water ices and possibly cream ices were manufactured and dispensed.

This delicacy found its way to America and in 1700 Governor Bladen of Maryland was serving ice cream to his guests.

Dolly Madison created a sensation when she served ice cream as a dessert in the White House at the second inaugural ball in 1812.

The first hand-cranked freezer was invented by Nancy Johnson in 1846. She failed to patent it, however, and a similar type was patented by a Mr. Young in 1848.

The first commercial ice cream plant was established in Baltimore in 1851 by Jacob Fussell.

A year before the turn of the century, August Gaulin of Paris invented the homogenizer which is used to help develop the smooth texture of ice cream.

With the coming of mechanical refrigeration, the first batch freezer was invented by H. H. Miller of Canton, Ohio. About 1926, the first continuous freezer was commercially perfected by Clarence Vogt of Louisville, Kentucky.

Italo Marchiony, who emigrated from Italy in the late 1800s, produced the first ice cream cone in 1896 in New York City. He was granted a patent for his special mould in December 1903. In 1904, the ice cream cone was introduced at the St. Louis World's Fair when a Syrian waffle concessionaire named E. A. Hamwi started rolling waffles into the shape of a cone for the benefit of an ice cream vendor who occupied an adjoining booth. It has remained a favorite to this date, with billions of cones consumed each year. Other products, such as ice cream on sticks, ice cream bars and other forms of ice cream, ice milk and sherbet, known in the industry as "novelties" had their beginning in the 1920s.

HOW ICE CREAM IS MADE

The basic mix for the manufacture of ice cream is largely cream and other milk ingredients, plus sweeteners.

The ingredients of the mix are carefully blended in proper proportions in a mixing tank. The mix may contain small amounts of functional ingredients, such as a stabilizer, which prevents the formation of ice crystals in the ice cream after it is frozen.

The mix goes to a pasteurizer where it is heated and held at a predetermined temperature for a specified period of time. The most common type of pasteurization is the high-temperature-short-time method in which the mix is heated to 175 degrees F. and held for 25 seconds.

The hot mix then goes to the homogenizer where, under pressure of from 2,000 to 2,500 pounds per square inch, the milkfat globules are broken into still smaller particles to help make the ice cream smooth.

After homogenization, the hot mix is quickly cooled to a temperature of about 40 degrees F.

Next, freezing of the mix is accomplished by one of two methods: a "continuous freezer" which uses a steady flow of mix; or a "batch freezer" which makes a single quantity of ice cream at a time.

While the ice cream is being frozen, blades in the freezer, or "dashers" as they are commonly called, whip and aerate the products. Without this aeration, the finished product would be an inedible, solidly frozen mass of cream, milk, sugar and flavoring. In all states, this aeration, called "overrun," is controlled by requiring the finished ice cream shall weigh not less than 4.5 pounds per gallon and contain at least 1.6 pounds of total food solids.

With the use of the continuous freezer, ingredients such as fruits and nuts are added after the freezing by a mechanical flavor feeder. Liquid flavors are added to the mix prior to freezing.

The filling operation includes many activities such as filling large containers, half gallon, quart and pint packages, paper cups or molds for ice cream on a stick.

After the freezer and filling, ice cream goes to the "hardening room" where sub-zero temperatures further harden the ice cream. From the hardening room, it is loaded into refrigerated trucks for delivery to distributors or retailers.

OVERVIEW

UNITED STATES

After eight consecutive years of growth, ice cream production declined in 1988 by five percent. Ice milk production, however, registered an eight percent gain and climbed to a record 354 million gallons.

Per capita production of ice cream stood at 14.4 quarts, down from 15.3 quarts in 1987. Per capita production of ice milk increased to 5.8 quarts from 5.4 quarts a year earlier.

A further breakout of ice milk production reveals continued, significant gains in production of hard, packaged ice milk. Hard ice milk production shot up 28% in 1988 while soft serve ice milk experienced only a two percent gain. Hard volume accounted for nearly 27% of total ice milk production in 1988, up substantially from 20% in 1985.

Notwithstanding the decline in 1988 production, ice cream still accounts for 64% of total frozen dessert production. Ice milk increased its share of total production by three points in 1988 and rose to 26%. Sherbet maintained its position at 3.5% of total production while water ices edged up slightly to 3.6%. Mellorine and other frozen products accounted for the remaining 2.8%.

Superpremium and premium ice cream continue to account for almost 40% of the total dollar sales of ice cream.

The retail value of ice cream and all related products is estimated at approximately \$9 billion.

The trend towards fewer and larger frozen dessert production plants accelerated somewhat in 1988 compared to the average for the decade. The number of ice cream plants declined eight percent from 1987 and totalled 765 during 1988. The number of plants producing ice milk dropped by more than 10% during the year and stood at 385.

Industry employment, however, continues to display stability. It is estimated by the U.S. Department of Commerce that production worker employment grew slightly in 1987 and maintained that level in 1988. Commerce estimates also show that total employment stabilized in 1987 and experienced a slight growth in 1988.

Capital expenditures for new plants and equipment are estimated by the U.S. Department of Commerce to have increased more than 14% in 1987 and reached \$121 billion. Nearly \$23 billion was spent on new plants while \$98 billion was allocated to new equipment purchases.

The New England Region now claims the highest per capita production of ice cream with 22.1 quarts, followed by the West North Central with 21.3 quarts. The West North Central, however, maintains its per capita production lead in ice milk at 9.8 quarts. When all frozen dessert products are considered, the West North Central still ranks number one in per capita production at 35.6 quarts followed by New England at 29.7 quarts.

California continues to be the largest producer of frozen desserts with a 1988 volume of 169 million gallons, or 12% of total U.S. production.

ICE CREAM AND RELATED FROZEN DESSERTS
Total and Per Capita Production

	<u>1988</u>	<u>% Change from 1987</u>
Total, Ice Cream & Related Frozen Desserts	1,387,271,000 gals	- 1.0
Per Capita Production	22.57 qts.	- 2.0
Ice Cream (Hard & Soft)	881,522,000 gals.	- 5.0
Per Capita Production	14.35 qts.	- 6.0
Ice Milk (Hard & Soft) 1]	354,246,000 gals.	+ 8.1
Per Capita Production	5.76 qts.	+ 7.1
Sherbet (Hard & Soft)	52,155,000 gals.	+ 4.3
Per Capita Production	.85 qts.	+ 3.7
Water Ices 2]	50,347,000 gals.	+ 6.9
Per Capita Production	.82 qts.	+ 6.5
Mellorine (Hard & Soft) 3]	9,988,000 gals.	- 1.2
Per Capita Production	.16 qts.	- 1.2
Other Frozen Dairy Products 4]	39,013,000 gals.	+ 0.7
Per Capita Production	.63 qts.	- 1.6

1] Includes freezer-made milkshakes.

2] Also contains sorbet, frozen juice bars and gelatin pops.

3] Also includes other vegetable fat and tofu-based products.

4] Includes soft yogurt mix, pudding pops and miscellaneous frozen dairy products.

INTERNATIONAL REVIEW

The United States remains the largest consumer of ice cream and related frozen desserts with a per capita production of 45.14 pints in 1988. Ice cream per capita was 28.70 pints and ice milk per capita was 11.52 pints.

Finland remains in second place with per capita consumption of 42.10 pints reported for 1987 (the latest data available).

Australia ranks as the third largest consumer of ice cream and related products with a per capita consumption of 37.62 pints in 1987 (the latest data reported).

New Zealand maintains its fourth place position with 32.76 pints of per capita consumption.

Canada, with a 1988 per capita consumption of 30.66 pints, is in fifth place.

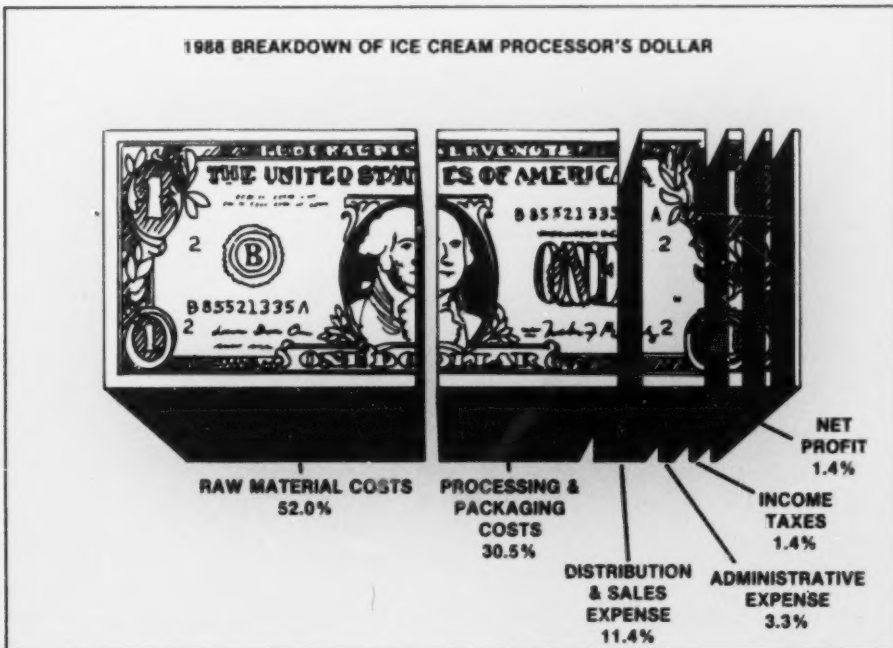
**THE "REAL" PRICE OF ICE CREAM
1978 - 1988**

Year	Average Wages All Manufacturing Production Workers \$ per Hour	Average Retail Price of Ice Cream ¢ per ½ Gallon	Labor Required to Purchase Half Gallon of Ice Cream Minutes
1978	6.17	146.2	14.2
1979	6.70	163.3	14.6
1980	7.27	182.3	15.0
1981	7.99	201.6	15.1
1982	8.49	210.3	14.9
1983	8.83	215.8	14.7
1984	9.19	221.8	14.5
1985	9.54	229.9	14.5
1986	9.73	235.7	14.5
1987	9.91	246.0	14.9
1988	10.17	246.0	14.5

% Change			
1978-1988	+ 65%	+ 68%	+ 2%

Source: Bureau of Labor Statistics, U.S. Department of Labor.

1988 BREAKDOWN OF ICE CREAM PROCESSOR'S DOLLAR



SOURCE: E.B. McCLAIN CO., INC., MEMPHIS, TENNESSEE

**PRODUCTION OF ICE CREAM AND RELATED PRODUCTS (HARD AND SOFT)
BY STATES AND REGIONS - 1988**

STATE & REGION	ICE CREAM	ICE MILK 1/	SHERBET	WATER ICES 2/	MELLORINE- TYPE PRODUCTS 3/	OTHER FROZEN DAIRY PRODUCTS 4/	TOTAL FROZEN PRODUCTS
(Thousand Gallons)							
NEW ENGLAND							
Maine	5/	5/	5/	5/	—	—	5/
New Hampshire	5/	5/	5/	—	—	—	5/
Vermont	5/	5/	5/	—	—	—	5/
Massachusetts	44,994	5/	2,294	5/	—	5/	47,288
Rhode Island	5/	5/	5/	—	—	—	5/
Connecticut	5/	5/	5/	5/	—	5/	5/
MID ATLANTIC							
New York	45,856	12,010	1,963	3,400	5/	5/	63,229
New Jersey	18,707	4,709	196	5/	—	—	23,612
Pennsylvania	87,308	20,838	5,093	2,422	—	448	116,109
E.N. CENTRAL							
Ohio	41,615	12,999	2,637	953	—	1,020	59,224
Indiana	24,712	10,611	1,719	5/	—	5/	37,042
Illinois	31,451	22,065	1,739	582	5/	5/	55,837
Michigan	29,378	13,621	2,179	5/	—	5/	45,178
Wisconsin	21,103	5,791	1,399	3,307	—	825	32,425
W.N. CENTRAL							
Minnesota	37,759	11,819	2,328	5/	—	—	51,906
Iowa	23,914	11,006	2,861	5/	5/	5/	37,781
Missouri	18,272	8,264	1,255	5,568	5/	5/	33,359
North Dakota	2,018	879	197	5/	—	—	3,094
South Dakota	5/	5/	—	—	—	—	5/
Nebraska	5/	5/	5/	5/	—	5/	5/
Kansas	7,058	5/	477	5/	—	5/	7,535
SOUTH ATLANTIC							
Maryland & D.C.	15,085	5,443	1,446	5/	5/	5/	21,974
Delaware	5/	5/	—	—	—	—	5/
Virginia	14,022	5/	108	5/	—	5/	14,130
West Virginia	5/	5/	5/	5/	—	—	5/
North Carolina	33,580	9,794	1,502	962	—	3,176	49,014
South Carolina	14,952	4,688	1,204	5/	—	5/	20,844
Georgia	8,925	5/	774	5/	—	5/	9,699
Florida	29,645	18,112	2,213	5/	—	5/	49,970
SOUTH CENTRAL							
Kentucky	5/	5/	5/	5/	—	5/	5/
Tennessee	18,800	5,562	923	5/	5/	5/	25,285
Alabama	21,756	11,066	2,211	5/	5/	5/	35,033
Mississippi	3,171	2,707	220	5/	—	—	6,098
Arkansas	6,705	2,149	251	—	5/	5/	9,105
Louisiana	5/	5/	5/	5/	—	5/	5/
Oklahoma	12,224	6,207	923	5/	5/	121	19,475
Texas	49,767	20,034	2,352	3,486	5/	1,942	77,581
MOUNTAIN							
Montana	5/	1,087	5/	5/	—	92	1,179
Idaho	5/	5/	5/	5/	—	—	5/
Wyoming	5/	5/	5/	—	—	—	5/
Colorado	10,287	8,125	401	268	—	98	19,179
New Mexico	5/	5/	5/	5/	—	—	5/
Arizona	7,012	5/	641	5/	—	—	7,653
Utah	10,639	3,682	588	5/	—	140	15,249
Nevada	5/	5/	5/	—	—	—	5/
PACIFIC							
Washington	17,411	9,855	1,583	5/	—	5/	28,849
Oregon	7,574	4,079	304	5/	5/	—	11,957
California	106,900	39,864	5,105	3,156	5/	13,690	168,715
Other States 6/	58,922	66,980	3,069	26,243	9,988	17,461	182,663
UNITED STATES	881,522	354,246	52,155	50,347	9,988	39,013	1,387,271

1/ Includes freezer-made milkshake.

2/ Also contains sorbet, frozen juice bars and gelatin pops.

3/ Also includes other vegetable fat products and tofu-based products.

4/ Includes soft yogurt mix, pudding pops and miscellaneous frozen dairy products.

5/ State data not shown when less than 3 plants reported or individual operations might be disclosed—

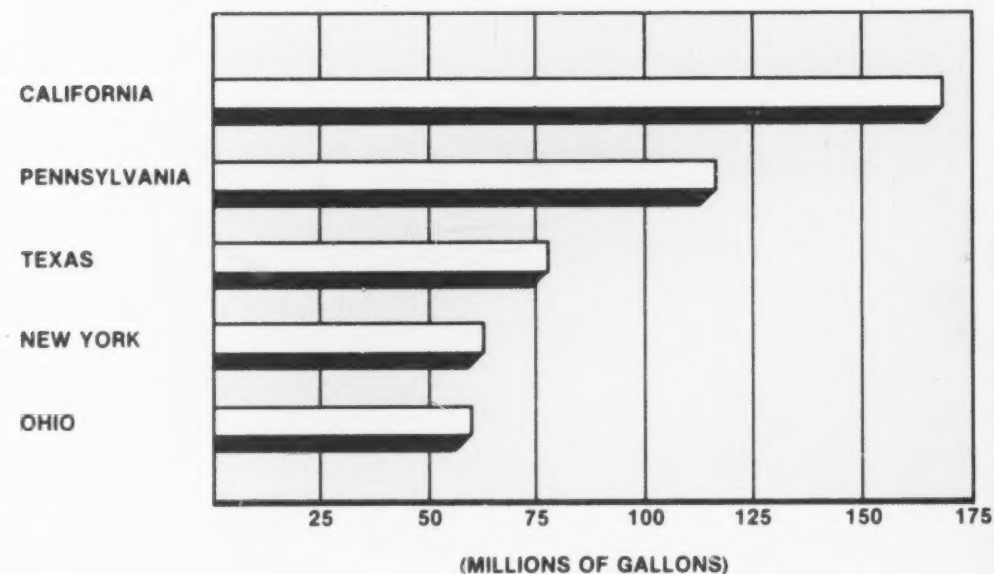
Production is included in "Other States".

6/ Includes varying states for each product. Alaska & Hawaii included in Other States for all products.

— No Production

Prepared by the International Ice Cream Association from data published by the U.S. Department of Agriculture.

FIVE LEADING STATES IN 1988
PRODUCTION OF ICE CREAM AND RELATED PRODUCTS (HARD & SOFT)



PRODUCTION OF ICE CREAM AND RELATED PRODUCTS
FIVE LEADING STATES, 1988

State	Ice Cream	Ice Milk	Sherbet	Water Ices	Mellorine-Type Products	Total 1/
(Thousand Gallons)						
California	106,900	39,864	5,105	3,156	2/	168,715
Pennsylvania	87,308	20,838	5,093	2,422	—	116,109
Texas	49,767	20,034	2,352	3,486	2/	77,581
New York	45,856	12,010	1,963	3,400	2/	63,229
Ohio	41,615	12,999	2,637	953	—	59,224
Total Five States	331,446	105,745	17,150	13,417	2/	484,858
Percent of U.S. Total	37.6%	29.9%	32.9%	26.6%	2/	36.0%

1/ Includes small amounts of other frozen products in addition to product categories shown separately.

2/ State data not shown when less than 3 plants reported or individual operations might be disclosed.

— No Production.

Prepared by the International Ice Cream Association from data published by the U.S. Department of Agriculture.

DEFINITIONS

Selected Frozen Desserts

ICE CREAM is a frozen food made from a mixture of dairy products, such as milk, cream and nonfat milk, combined with sugars, flavorings, fruits, nuts, etc. Ice cream which contains at least 1.4% egg yolks is called French ice cream or frozen custard. Ice cream and french ice cream contain a minimum of 10% milkfat and weigh not less than 4.5 pounds per gallon.

ICE MILK is a frozen dessert which is similar to ice cream except that it contains between 2% to 7% milkfat.

SHERBET, both fruit sherbet and those flavored with flavors other than fruit, contain between 1% to 2% milkfat and weigh not less than 6 pounds per gallon.

WATER ICES, both fruit ices and those flavored with flavors other than fruit, contain no dairy ingredients and weigh not less than 6 pounds per gallon.

MELLORINE is a frozen dessert similar to ice milk in which the milkfat is replaced, in whole or in part, with vegetable fat and the minimum fat content is 6%.

NUTRITION HIGHLIGHTS 1/

	Calories	Protein g.	Car- bohydrate g.	Fat g.	Vitamin A I.U.	Calcium mg.	Phosphorus mg.	Riboflavin mg.
Vanilla Ice Cream (10% fat) % U.S. RDA 2/	135	2.4 5.3%	15.9	7.2	271 5.4%	88 8.8%	67 6.7%	.164 9.6%
Vanilla Ice Cream (16% fat) % U.S. RDA 2/	175	2.1 4.6%	16.0	11.8	448 8.9%	76 7.6%	58 5.8%	.141 8.2%
Vanilla Ice Milk (4% fat) % U.S. RDA 2/	92	2.6 5.7%	14.5	2.8	107 2.1%	88 8.8%	64 6.4%	.173 10.1%
Orange Sherbet (2% fat) % U.S. RDA 2/	135	1.1 2.4%	29.4	1.9	93 1.8%	52 5.2%	37 3.7%	.045 2.6%

1/ Values presented per ½ cup (approximately 4 fluid ounces). Source: Calculated from USDA Agricultural Handbook 8-1 (November 1976) data.

2/ United States Recommended Daily Allowance.

**FROZEN DESSERTS INDUSTRY
EMPLOYEES, WAGES AND VALUE OF SHIPMENTS, 1958-1988**

Year	All Employees 1/		Production Workers 1/		Wages 1/ Million Dollars	Value of Product Shipments 2/ Million Dollars
	Number	Payroll	Number	Manhours		
	Thousands	Million Dollars	Thousands	Millions		
1958	34.8	153.9	18.7	37.7	72.4	1,137.7
1963	29.6	162.8	15.6	32.5	76.6	1,210.0
1967	24.6	156.4	13.8	27.2	77.2	1,273.6
1968	23.7	158.2	13.2	26.6	79.8	1,330.0
1969	22.7	159.2	12.6	25.4	80.6	1,334.8
1970	24.1	166.8	13.9	26.1	85.9	1,343.2
1971	22.6	173.5	12.8	25.1	87.7	1,389.0
1972	21.1	184.7	12.0	23.5	94.7	1,519.4
1973	21.3	195.9	12.1	24.1	100.0	1,639.5
1974	21.3	196.5	11.8	22.9	108.0	1,787.9
1975	20.2	208.5	11.1	22.0	116.4	2,012.9
1976	20.3	223.6	11.3	22.3	125.3	2,063.3
1977	19.1	247.0	11.4	22.7	130.1	2,229.4
1978	18.5	252.5	11.3	21.9	136.6	2,397.2
1979	19.9	277.4	12.3	24.3	151.9	2,733.2
1980	19.6	288.6	12.3	23.7	163.0	3,041.5
1981	20.1	325.6	12.0	23.0	167.1	3,322.1
1982	17.8	313.5	11.1	20.9	177.3	3,281.1
1983	17.7	349.7	9.5	19.7	174.0	3,414.5
1984	20.0	367.2	12.2	23.1	200.4	3,809.9
1985	18.9	384.7	11.7	21.5	199.8	3,881.8
1986	18.2	383.2	11.7	22.3	219.0	3,922.1
1987 ³	18.2	390.5	11.9	22.7	226.9	3,939.2
1988 ³	18.5	397.9	11.9	22.7	227.6	3,898.6

1/ Data for plants with ice cream and other frozen desserts as the leading product group in value of shipments.

2/ Includes value of shipments of ice cream and other frozen desserts by plants classified in other industries, such as fluid milk.

3/ Estimated by International Trade Administration, U.S. Department of Commerce.

Source: Bureau of the Census, U.S. Department of Commerce (for data from 1958-1986).

**FROZEN DESSERTS INDUSTRY
CAPITAL EXPENDITURES FOR NEW PLANTS AND EQUIPMENT
1954-1987**

<u>Year</u>	<u>Total</u> <u>Million</u> <u>Dollars</u>	<u>For</u> <u>Plants</u> <u>Million</u> <u>Dollars</u>	<u>Share of</u> <u>Total</u> <u>Percent</u>	<u>For</u> <u>Equipment</u> <u>Million</u> <u>Dollars</u>	<u>Share of</u> <u>Total</u> <u>Percent</u>
1954	25.7	4.2	16.3	21.5	83.7
1958	26.1	5.1	19.5	21.0	80.5
1963	31.9	8.1	25.4	23.8	74.6
1967	26.6	5.7	21.4	20.9	78.6
1968	22.1	2.8	12.7	19.3	87.3
1969	30.3	5.6	18.5	24.7	81.5
1970	43.7	15.8	36.2	27.9	63.8
1971	28.0	5.7	20.4	22.3	79.6
1972	35.8	7.5	20.9	29.3	79.1
1973	29.2	9.7	33.2	19.5	66.8
1974	27.8	6.2	22.3	21.6	77.7
1975	37.2	10.1	27.2	27.0	72.6
1976	43.2	11.9	27.5	31.3	72.5
1977	56.8	19.4	33.4	38.7	66.8
1978	56.4	12.6	22.3	43.8	77.7
1979	46.3	12.8	27.6	33.5	72.4
1980	46.8	11.1	23.7	35.7	76.3
1981	41.8	6.1	14.6	35.7	85.4
1982	79.9	16.3	20.4	63.6	79.6
1983	75.5	9.3	12.3	66.2	87.7
1984	84.0	17.3	20.6	66.7	79.4
1985	1/	1/	1/	1/	1/
1986	105.4	19.6	18.6	85.8	81.4
1987 ²	120.7	22.9	19.0	97.8	81.0

1/ Withheld to avoid disclosing data for individual companies.

2/ Estimated by International Trade Administration, U.S. Department of Commerce.

Source: (for data from 1954-1986) Bureau of the Census, U.S. Department of Commerce.

**ICE CREAM AND RELATED PRODUCTS
TOTAL AND PER CAPITA PRODUCTION (HARD AND SOFT)
1869 - 1988**

YEAR	ICE CREAM		ICE MILK 1/		SHERBET		WATER ICES 2/		MELLORINE-TYPE PRODUCTS 3/		OTHER FROZEN DAIRY PRODUCTS 4/		TOTAL FROZEN PRODUCTS	
	Total 1,000 Gallons	Per Capita Quarts	Total 1,000 Gallons	Per Capita Quarts	Total 1,000 Gallons	Per Capita Quarts	Total 1,000 Gallons	Per Capita Quarts	Total 1,000 Gallons	Per Capita Quarts	Total 1,000 Gallons	Per Capita Quarts	Total 5/ 1,000 Gallons	Per Capita Quarts
1869	24												24	
1879	144	0.01											144	0.01
1889	851	0.06											851	0.06
1899	5,021	0.27											5,021	0.27
1909	29,637	1.31											29,637	1.31
1919	152,982	5.86											152,982	5.86
1920	171,248	6.43											171,248	6.43
1930	255,439	8.30											255,439	8.30
1940	318,088	9.64	10,457	0.32	8,089	0.24					2,910	0.09	339,544	10.29
1950	554,351	14.66	36,870	0.98	17,018	0.45	18,299	0.48			8,230	0.22	634,768	16.79
1955	628,525	15.30	90,185	2.20	37,365	0.91	28,158	0.69	32,261	0.78	3,440	0.08	819,934	19.96
1960	699,605	15.55	145,177	3.23	40,734	0.91	33,361	0.74	45,214	1.00	4,913	0.11	969,004	21.54
1965	757,000	15.65	230,992	4.77	45,449	0.94	37,119	0.77	53,169	1.10	6,486	0.13	1,130,215	23.36
1970	761,732	14.95	286,663	5.63	48,887	0.96	37,265	0.73	51,878	1.02	6,719	0.13	1,193,144	23.42
1975	836,552	15.53	298,789	5.55	48,542	0.90	38,230	0.71	30,038	0.56	11,062	0.20	1,263,213	23.45
1980	829,798	14.61	293,384	5.17	45,187	0.80	33,386	0.59	13,190	0.23	10,278	0.18	1,225,223	21.58
1985	901,449	15.10	301,312	5.05	48,206	0.81	49,842	0.83	8,752	0.15	51,413	0.86	1,360,974	22.80
1986	923,597	15.32	314,673	5.22	49,679	0.82	50,937	0.85	8,429	0.14	35,014	0.58	1,382,329	22.93
1987	928,356	15.26	327,561	5.38	49,998	0.82	47,098	0.77	10,110	0.17	38,725	0.64	1,401,848	23.04
1988	881,522	14.35	354,246	5.76	52,155	0.85	50,347	0.82	9,988	0.16	39,013	0.63	1,387,271	22.57

1/ Includes freezer-made milkshake.

2/ Also contains sorbet, frozen juice bars and gelatin pops.

3/ Also contains other vegetable fat products and tofu-based products.

4/ Includes soft yogurt mix, pudding pops and miscellaneous frozen dairy products.

5/ Data from 1869 to 1919 indicate only the estimated trend of production.

Prepared by the International Ice Cream Association from data published by the U.S. Department of Agriculture.

MONTHLY PRODUCTION OF ICE CREAM AND RELATED PRODUCTS (HARD AND SOFT)
1986-1988

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
(Thousand Gallons)													
ALL FROZEN PRODUCTS 1/													
1986	89,162	95,134	114,986	122,678	136,278	144,123	149,156	137,978	114,602	106,361	85,293	86,578	1,382,329
1987	88,567	101,705	121,106	124,331	132,405	151,336	150,593	135,832	118,334	99,889	87,756	89,994	1,401,848
1988	81,569	97,393	123,404	119,274	131,642	152,207	143,072	146,392	118,134	98,918	88,959	86,307	1,387,271
ICE CREAM													
1986	61,968	66,002	76,598	79,638	87,764	92,460	96,038	91,054	77,938	73,243	60,291	60,603	923,597
1987	61,174	70,221	81,015	81,829	85,537	97,181	96,776	88,535	79,094	66,418	59,539	61,037	928,356
1988	56,652	65,458	79,739	74,887	81,544	94,009	88,657	89,554	74,416	63,071	57,467	56,068	881,522
ICE MILK													
1986	18,979	19,499	25,781	28,908	32,640	33,833	35,113	32,324	26,116	24,352	18,276	18,852	314,673
1987	18,940	21,417	27,195	28,887	31,456	36,435	36,974	32,587	27,749	24,760	20,387	20,774	327,561
1988	17,895	22,055	29,506	29,637	34,432	39,403	36,682	41,022	31,613	26,174	23,558	22,269	354,246
SHERBET													
1986	3,120	3,208	3,938	4,449	5,198	5,657	6,080	4,993	3,859	3,313	2,703	3,161	49,679
1987	3,154	3,393	4,060	4,727	4,796	5,809	5,629	4,928	4,104	3,129	2,820	3,449	49,998
1988	2,767	3,435	4,714	4,698	4,785	6,050	5,893	5,698	4,233	3,605	3,021	3,256	52,155
WATER ICES													
1986	2,590	3,538	4,714	5,596	6,225	7,465	7,342	5,143	3,040	2,149	1,506	1,629	50,937
1987	2,769	3,389	4,826	4,660	5,795	6,498	5,871	4,924	3,049	2,053	1,785	1,479	47,098
1988	2,104	3,151	4,807	5,475	5,896	6,865	6,553	5,559	3,495	2,529	1,992	1,921	50,347
MELLORINE-TYPE PRODUCTS													
1986	470	584	811	815	874	847	920	867	754	736	369	382	8,429
1987	586	686	861	815	973	1,194	1,180	1,104	967	677	556	511	10,110
1988	477	724	948	956	1,046	1,141	1,024	1,051	915	763	553	390	9,998

1/ Includes other frozen dairy products in addition to those shown separately.

Prepared by International Ice Cream Association from data published by U.S. Department of Agriculture.

**PRODUCTION OF MIX FOR FROZEN PRODUCTS (HARD AND SOFT)
BY STATES AND REGIONS — 1988**

STATE & REGION	ICE CREAM MIX	ICE MILK MIX	SHERBET MIX	MELLORINE- TYPE MIX	TOTAL MIX FOR FROZEN PRODUCTS
(Thousand Gallons)					
NEW ENGLAND					
Maine	—	—	—	—	1/
New Hampshire	—	—	—	—	1/
Vermont	—	—	—	—	1/
Massachusetts	23,064	1/	1,587	—	24,651
Rhode Island	—	—	—	—	1/
Connecticut	—	—	—	—	1/
MID ATLANTIC					
New York	24,149	3,150	1,430	—	28,729
New Jersey	15,336	—	—	—	15,336
Pennsylvania	45,724	10,136	3,530	—	59,390
E. N. CENTRAL					
Ohio	23,088	6,950	1,995	—	32,033
Indiana	11,208	8,741	810	—	20,759
Illinois	17,174	15,687	1,152	—	34,013
Michigan	14,296	7,837	1,310	—	23,443
Wisconsin	11,114	3,241	873	—	15,228
W. N. CENTRAL					
Minnesota	18,527	—	1,336	—	19,863
Iowa	11,946	6,691	2,186	—	20,823
Missouri	7,494	4,395	821	—	12,710
North Dakota	835	634	80	—	1,549
South Dakota	—	—	—	—	1,549
Nebraska	—	2,058	—	—	2,058
Kansas	3,499	5,952	299	—	9,750
SOUTH ATLANTIC					
Delaware	—	—	—	—	—
Maryland & D.C.	6,793	—	1,098	—	7,891
Virginia	7,678	7,859	79	—	15,616
West Virginia	—	1/	1/	—	1/
North Carolina	17,235	3,777	960	—	21,972
South Carolina	7,867	2,497	783	—	11,147
Georgia	4,329	5,415	460	—	10,204
Florida	15,305	11,027	1,324	—	27,656
SOUTH CENTRAL					
Kentucky	—	3,082	—	—	3,082
Tennessee	10,155	2,970	625	—	13,750
Alabama	11,754	6,092	1,659	—	19,505
Mississippi	1,652	1,715	137	—	3,504
Arkansas	3,451	1,198	159	—	4,808
Louisiana	—	—	—	1/	1/
Oklahoma	6,051	2,989	571	—	9,611
Texas	27,058	12,836	1,467	1/	41,361
MOUNTAIN					
Montana	975	675	48	—	1,698
Idaho	—	—	—	—	1/
Wyoming	—	—	—	—	1/
Colorado	5,497	5,011	273	—	10,781
New Mexico	—	—	—	—	1/
Arizona	—	3,665	—	—	3,665
Utah	5,415	2,505	331	—	8,251
Nevada	—	—	—	—	1/
PACIFIC					
Washington	9,121	4,195	1,182	—	14,498
Oregon	3,792	2,706	205	—	6,703
California	52,972	24,511	3,401	1/	80,884
OTHER STATES 2/	33,749	42,701	2,382	6,062	84,894
UNITED STATES	458,303	222,898	34,553	6,062	721,816

1/ State data not shown when less than 3 plants reported or individual operations might be disclosed, included in "Other States" with Alaska and Hawaii.

2/ Includes varying states for each product.

— No Production.

Prepared by International Ice Cream Association from data published by U.S. Department of Agriculture.

PRODUCTION OF ICE CREAM AND RELATED PRODUCTS (HARD AND SOFT)
BY REGIONS - 1988

REGION	ICE CREAM	ICE MILK 1/	SHERBET	WATER ICES 2/	MELLORINE- TYPE PRODUCTS 3/	OTHER FROZEN DAIRY PRODUCTS 4/	TOTAL FROZEN PRODUCTS
			(Thousand Gallons)				
New England	71,663	18,008	3,610	2,155	—	767	96,203
Mid Atlantic	151,871	37,557	7,252	6,745	313	9,466	213,204
E. N. Central	148,259	65,087	9,673	6,365	150	5,594	235,128
W. N. Central	94,588	43,486	7,368	9,869	1,058	1,703	158,072
South Atlantic	116,905	53,730	7,295	12,200	87	3,947	194,164
South Central	123,178	56,891	7,301	5,612	8,026	3,194	204,202
Mountain	41,033	23,586	2,481	3,044	—	330	70,474
Pacific	131,885	53,798	6,992	4,229	354	14,012	211,270
United States 5/	881,522	354,246	52,155	50,347	9,988	39,013	1,387,271

1/ Includes freezer-made milkshake.

2/ Also contains sorbet, frozen juice bars and gelatin pops.

3/ Also includes other vegetable fat products and tofu-based products.

4/ Includes soft yogurt mix, pudding pops and miscellaneous frozen dairy products.

5/ Alaska & Hawaii included in U.S. totals only.

— No Production

Prepared by International Ice Cream Association from data released by U.S. Department of Agriculture.

**ICE CREAM AND RELATED PRODUCTS
PER CAPITA PRODUCTION (HARD AND SOFT)
BY REGIONS, 1965-1988**

Product & Year	New England	Mid Atlantic	E.N. Central	W. N. Central	South Atlantic	South Central	Mountain	Pacific	United States
	(Quarts)								
Ice Cream									
1965	20.06	18.74	18.19	18.00	13.40	9.57	12.88	14.89	15.65
1970	20.82	17.96	16.86	17.94	11.36	10.18	11.90	14.62	14.96
1975	24.72	16.27	17.40	19.23	12.33	11.71	10.96	15.77	15.53
1980	21.83	16.19	16.10	19.15	11.48	10.78	11.93	15.18	14.61
1985	22.88	16.83	15.59	21.36	12.03	12.11	11.61	15.57	15.10
1986	23.25	17.10	15.51	22.43	12.15	12.43	11.99	15.65	15.32
1987	23.42	16.96	15.31	23.44	11.69	12.51	12.01	15.44	15.26
1988	22.11	16.14	14.08	21.30	11.02	11.67	12.31	14.77	14.35
Ice Milk									
1965	2.10	2.01	4.50	6.59	6.52	5.54	5.47	6.21	4.77
1970	3.65	3.32	5.89	8.24	6.66	5.50	6.56	6.55	5.63
1975	5.34	3.40	6.49	7.70	5.86	5.14	5.18	5.95	5.55
1980	4.72	3.11	6.14	7.34	5.49	4.39	6.23	5.48	5.17
1985	4.40	2.93	5.21	8.57	5.05	5.12	5.83	5.23	5.05
1986	4.48	3.49	5.74	8.11	5.29	5.05	6.10	5.10	5.22
1987	4.96	3.69	5.81	9.35	5.01	5.33	5.96	5.16	5.38
1988	5.56	3.99	6.18	9.79	5.07	5.39	7.08	6.03	5.76
Total Frozen Products 1/									
1965	24.38	22.64	24.81	27.11	21.78	20.66	20.56	26.08	23.36
1970	26.55	23.06	25.06	28.46	19.48	20.48	20.06	25.64	23.43
1975	31.59	21.19	25.92	28.38	19.95	20.35	17.26	24.56	23.45
1980	28.41	20.83	24.13	29.24	18.53	17.38	19.29	22.44	21.58
1985	29.13	22.02	22.74	33.28	18.99	19.73	19.31	23.18	22.38
1986	29.70	22.83	23.24	33.96	20.31	19.91	19.73	23.14	22.93
1987	29.95	23.21	23.11	36.69	19.24	20.02	20.03	23.15	23.04
1988	29.68	22.66	22.33	35.60	18.31	19.34	21.15	23.65	22.57

1/ Includes ice cream, ice milk, sherbet, mellorine-type products, water ices and other frozen dairy products.

Prepared by the International Ice Cream Association from production data released by the U.S. Department of Agriculture and population estimates from Bureau of the Census, U.S. Department of Commerce.

**1988 PRODUCTION OF ICE CREAM, ICE MILK AND TOTAL FROZEN PRODUCTS
WITH PERCENTAGE CHANGE FROM 1987, BY REGION**

	ICE CREAM		ICE MILK		TOTAL FROZEN PRODUCTS 1/	
	Total 1,000 Gallons	% Change from 1987	Total 1,000 Gallons	% Change from 1987	Total 1,000 Gallons	% Change from 1987
New England	71,663	- 4.7	18,008	+ 13.1	96,203	+ 0.4
Mid Atlantic	151,871	- 4.4	37,557	+ 8.8	213,204	- 1.5
East North Central	148,259	- 7.5	65,087	+ 6.9	235,128	- 2.8
West North Central	94,588	- 8.5	43,486	+ 5.5	158,072	- 1.9
South Atlantic	116,905	- 4.1	53,730	+ 3.0	194,164	- 2.9
South Central	123,178	- 6.7	56,891	+ 1.2	204,202	- 3.0
Mountain	41,033	+ 3.8	23,586	+ 20.2	70,474	+ 7.2
Pacific	131,885	- 2.2	53,798	+ 19.7	211,270	+ 4.5
UNITED STATES 2/	881,522	- 5.0	354,246	+ 8.1	1,387,271	- 1.0

1/ Includes ice cream, ice milk, sherbet, water ices, mellorine-type products and other frozen dairy products.

2/ Alaska & Hawaii included in U.S. totals only.

Prepared by International Ice Cream Association from data released by U.S. Department of Agriculture.

NUMBER OF PLANTS PRODUCING ICE CREAM AND RELATED PRODUCTS
1961-1988

Year	Ice Cream		Ice Milk	Sherbet	Water Ices	Mellorine- Type Products
	Including Counter Freezers	Excluding Counter Freezers				
1961	15,872	-	27,607	4,636	2,398	1,221
1962	14,541	-	30,919	3,754	2,353	1,364
1963	13,915	2,476	33,229	3,625	2,650	1,253
1964	13,106	-	34,485	3,395	2,691	1,313
1965	12,584	-	35,181	3,452	2,852	1,280
1966	12,063	-	36,158	3,580	2,682	1,308
1967	11,452	-	37,312	3,191	2,773	1,363
1968	11,228	1,873	39,474	3,108	2,854	1,792
1969	1/	1,739	1,160 2/	1,176 2/	1/	199 2/
1970		1,628	1,088	1,122	377	203
1971		1,520	1,008	1,065	335	177
1972		1,451	984	1,022	363	180
1973		1,330	902	976	321	154
1974		1,239	824	904	299	146
1975		1,167	746	850	281	124
1976		1,124	718	812	281	119
1977		1,095	702	782	273	110
1978		1,062	670	744	263	101
1979		990	604	690	234	89
1980		949	576	654	220	76
1981		895	548	614	212	74
1982		884	524	608	212	67
1983		862	495	594	201	71
1984		853	477	570	199	57
1985		865	455	562	201	60
1986		845	436	542	220	54
1987		829	430	528	204	45
1988		765	385	485	197	33

1/ Not available.

2/ After 1968, number of plants producing hard product. Number of counter freezers not available.

Prepared by the International Ice Cream Association from data published by the U.S. Department of Agriculture.

HARD FROZEN PRODUCTION — TOTAL AND PER CAPITA
ICE CREAM AND RELATED PRODUCTS
1960 - 1988

YEAR	ICE CREAM		ICE MILK		SHERBET		MELLORINE-TYPE PRODUCTS		TOTAL FOUR PRODUCTS 1/	
	Total 1,000 Gallons	Per Capita Quarts	Total 1,000 Gallons	Per Capita Quarts	Total 1,000 Gallons	Per Capita Quarts	Total 1,000 Gallons	Per Capita Quarts	Total 1,000 Gallons	Per Capita Quarts
1960	678,383	15.08	80,073	1.78	37,931	0.84	42,603	0.95	838,990	18.65
1965	741,024	15.32	126,146	2.60	44,954	0.93	50,143	1.04	962,267	19.89
1970	736,741	14.47	134,240	2.64	47,643	0.94	40,775	0.80	959,399	18.85
1975	803,494	14.92	116,609	2.17	45,996	0.85	23,724	0.44	989,823	18.38
1980	801,876	14.12	83,584	1.47	43,745	0.77	9,927	0.17	939,132	16.53
1985	861,766	14.44	61,985	1.04	45,934	0.77	7,133	0.12	976,818	16.37
1986	886,702	14.71	67,733	1.12	47,231	0.78	7,559	0.13	1,009,225	16.74
1987	886,565	14.57	74,062	1.22	46,826	0.78	7,791	0.13	1,015,244	16.68
1988	843,510	13.73	95,114	1.55	49,162	0.80	8,342	0.13	996,128	16.21

1/ Includes ice cream, ice milk, sherbet and mellorine type products.

Prepared by the International Ice Cream Association from data released by the U.S. Department of Agriculture.

HARD FROZEN PRODUCTION OF ICE CREAM AND RELATED PRODUCTS
BY REGIONS — 1988

Region	Ice Cream	Ice Milk	Sherbet	Mellorine- Type Products	Total Four Products 1/
(Thousand Gallons)					
New England	68,627	9,286	3,610	—	81,523
Mid Atlantic	132,631	8,867	6,939	313	148,750
E. N. Central	139,608	10,563	8,814	—	158,985
W. N. Central	93,983	12,420	6,867	1,058	114,328
South Atlantic	114,417	14,709	7,047	87	136,260
South Central	121,180	17,052	7,152	6,530	151,914
Mountain	39,797	4,125	2,008	—	45,930
Pacific	131,192	17,994	6,542	354	156,082
UNITED STATES 2/	843,510	95,114	49,162	8,342	996,128

1/ Includes ice cream, ice milk, sherbet and mellorine-type products.

2/ Alaska & Hawaii included in U.S. totals only.

— No Production.

Prepared by the International Ice Cream Association from data released by U.S. Department of Agriculture.

SOFT SERVE PRODUCTION — TOTAL AND PER CAPITA
ICE CREAM AND RELATED PRODUCTS
1960 — 1988

YEAR	ICE CREAM		ICE MILK		SHERBET		MELLORINE-TYPE PRODUCTS		TOTAL FOUR PRODUCTS 1/	
	Total 1,000 Gallons	Per Capita Quarts	Total 1,000 Gallons	Per Capita Quarts	Total 1,000 Gallons	Per Capita Quarts	Total 1,000 Gallons	Per Capita Quarts	Total 1,000 Gallons	Per Capita Quarts
1960	21,222	0.47	65,104	1.45	2,803	0.06	2,611	0.06	91,740	2.04
1965	15,976	0.33	104,846	2.17	495	0.01	3,026	0.06	124,343	2.57
1970	24,991	0.49	152,423	2.99	1,244	0.02	11,103	0.22	189,761	3.72
1975	33,058	0.61	182,180	3.38	2,546	0.05	6,314	0.12	224,098	4.16
1980	27,922	0.49	209,800	3.70	1,442	0.03	3,263	0.06	242,427	4.28
1985	39,683	0.66	239,327	4.01	2,272	0.04	1,619	0.03	282,901	4.74
1986	36,895	0.61	246,940	4.10	2,448	0.04	870	0.01	287,153	4.76
1987	41,791	0.69	253,499	4.17	3,172	0.05	2,319	0.04	300,781	4.94
1988	38,012	0.62	259,132	4.21	2,993	0.05	1,646	0.03	301,783	4.91

1/ Includes ice cream, ice milk, sherbet and mellorine-type products.

Prepared by the International Ice Cream Association from data released by the U.S. Department of Agriculture.

INDUSTRY SALES HIGHLIGHTS

Total Industry Sales

Total retail sales of ice cream and related frozen dessert products maintained a \$9 billion level in 1988, based on IICA estimates.

The most significant sales and production shifts during the year came within product categories. Most notable were the dramatic gains in both ice milk and frozen yogurt.

ICE CREAM & ICE MILK QUALITY SEGMENTS

	<u>% of Packaged Ice Cream Dollar Sales</u>	<u>% of Packaged Ice Milk Dollar Sales</u>
Superpremium	8.8	.1
Premium	31.9	31.1
Regular	24.2	37.6
Economy	35.1	31.2

Total retail sales of packaged ice cream registered \$1.9 billion in 1988. Quality segment shares of ice cream sales did not reflect any significant shifts from 1987 to 1988.

Total retail sales of packaged ice milk soared by 46% in 1988 over 1987 and reached \$207 million. Introductions of new, higher-priced superpremium and premium ice milks accounted for a large portion of the increase. Regular ice milk, which accounts for over 37% of the packaged ice milk market, also showed a respectable gain in sales of 27%.

Premium ice milk sales rose a dramatic 146% during the year and accounted for 31.1% of total packaged ice milk sales, compared with only a 17.3% market share a year earlier.

Introductions of new superpremium ice milk into the market during 1988 resulted in a 600% increase in segment sales. However, superpremium only accounted for .1% of total ice milk sales in 1988.

FROZEN YOGURT

Packaged frozen yogurt dollar sales nearly doubled from 1987 to 1988, from \$42 million to \$80 million.

Total frozen yogurt sales represented more than 2 percent of total packaged retail sales of ice cream and related products in 1988.

Based on the first five months of 1989 frozen yogurt production reported by the USDA, (the first production data available), it appears that total frozen yogurt production could reach 75 million gallons in 1989.

NOVELTIES

The frozen novelty market maintained its record \$2 billion in sales during 1988 -relatively unchanged from 1987.

Ice Cream and Ice Milk bars and sticks continued to represent the largest percentage of frozen novelty sales at over \$300 million.

Fastest growing categories during 1988 were:

Diet Bars & Sticks	+ 80%
Ice Cream/Milk Sandwiches	+ 26%
Cups	+ 26%
Fudge Bars	+ 25%

Source: A.C. Nielsen Co. (for data on ice cream, ice milk, frozen yogurt and novelty sales)

COMMERCIAL FOOD SERVICE

The commercial food service sector continues to account for more than 90 percent of away from home consumption of ice cream and related products.

Total sales of commercial eating places are projected to continue their upward climb in 1989 at approximately the same pace as in 1988. Total food sales are expected to increase 7.0% and reach \$147 billion.

While data on total sales of ice cream and related products in commercial eating places are not available, a separate breakout of ice cream and frozen custard stands shows that projected increases for this sector are keeping pace with the overall commercial food service industry. Ice cream and frozen custard stand sales are expected to increase 6.5% to \$1.8 billion in 1988.

	Estimated Sales, 1987	Estimated Sales, 1988	Projected Sales, 1989	% Change 1988 / 1989
	(millions of \$)	(millions of \$)	(millions of \$)	
Total Eating Places	\$128,568	\$137,443	\$147,117	+ 7.0%
Restaurants, Lunch- rooms	66,143	70,134	74,384	+ 6.1
Limited Menu Rest- aurants (Fast Foods)	55,672	60,124	66,054	+ 8.2
Commercial Cafeterias	3,678	3,899	4,164	+ 6.8
Social Cafeterias	1,490	1,596	1,714	+ 7.4
Ice Cream & Frozen Custard Stands	1,586	1,690	1,800	+ 6.5

Source: National Restaurant Association

ICE CREAM & FROZEN DESSERT INDUSTRY
Key Profitability and
Efficiency Ratios

<u>Median Ratios*</u>	<u>1984</u> (%)	<u>1988</u> (%)
<u>Profitability</u>		
Return on Sales	3.6	2.7
Return on Assets	10.8	4.9
Return on Net Worth	19.4	11.6
<u>Efficiency</u>		
Assets to Sales	33.6	36.3
Sales to New Working Capital	11.6	8.9

*Source: Dun & Bradstreet, *Industry Norms & Key Business Ratios*, 1984 and 1988. Data reported based on the median for establishments included in the surveys. Note that 97 establishments were included in the 1984 survey and 86 establishments in 1988. These data are not necessarily representative of the entire industry and the 1984 and 1988 ratios may not be directly comparable due to the potential change in the sample from year to year. These data are, however, based on the most extensive annual survey conducted for individual industry breakouts.

Definitions

Profitability

Return on Sales (Profit Margin) - Net profit after taxes divided by annual net sales. This ratio provides the profits earned per dollar of sales and is an indicator of not only the efficiency of the operation but also of the firm's ability to withstand adverse conditions.

Return on Assets - Net profit after taxes divided by total assets. This ratio is a key indicator of profitability of a firm.

Return on Net Worth (Return on Equity) - Net profit after tax divided by net worth. Generally, a relationship of at least 10 percent is regarded as a desirable objective for providing dividends plus funds for future growth.

Efficiency

Assets to Sales - Total assets divided by annual net sales. This ratio ties in sales and the total investment used to generate those sales.

Sales to Net Working Capital - Net sales divided by net working capital (current assets minus current liabilities). This ratio indicates whether a company is over-trading or, conversely, carrying more liquid assets than needed for its volume.

FLAVORS — ICE CREAM

(Hard Frozen)

Most Popular Flavors

1. Vanilla	29.0%	11. Cherry	1.8%
2. Chocolate	8.9	12. Chocolate Almond	1.8
3. Butter Pecan	5.3	13. Coffee	1.6
4. Strawberry	5.3	14. Rocky Road	1.5
5. Neapolitan	4.2	15. Chocolate Marshmallow	1.3
6. Chocolate Chip	3.9	16. Tin Roof Sundae	1.2
7. French Vanilla	3.8	17. Heavenly Hash	0.9
8. Cookies & Cream	3.6	18. Peppermint	0.8
9. Vanilla Fudge/Ripple	2.6	19. Almond	0.8
10. Praline Pecan	1.7	20. Mint Choc. Chip	0.6
		All Others	19.4
100%			

PACKAGED ICE CREAM

(Hard Frozen)

Percent of Volume

Package Size	Economy	Regular	Premium	Super Premium	Total
Cup	1%	3%	1%	*%	1.8%
Pint	•	3	7	30	4.4
Quart	•	1	4	13	2.0
Half Gallon	75	63	58	24	62.7
Gallon	5	7	1	2	4.6
Bulk	20	23	30	33	24.9
	100%	100%	100%	100%	100.00%

*Less than 1%

Note: Totals may not add due to rounding.

BREAKDOWN OF PAPER AND PLASTIC CONTAINERS

Ice Cream

Paper 84.5
Plastic 15.5

Source: Survey conducted by International Ice Cream Association, based on 1988 volume. Full survey results may be purchased from IICA Marketing Department, (202) 296-4250.

REVIEW — CANADA

Production 1988

Canadian production of ice cream and ice milk rebounded in 1988, after experiencing declines in 1987, and set record levels of 322 million and 18 million liters respectively. Production of hard ice cream, which accounts for 95% of total ice cream volume, was up 4.5% while soft serve production was down seven percent. The result was a 3.8% increase in total ice cream production for the year. After an eleven percent decrease in 1987, total ice milk production increased a significant 16.2% in 1988 and registered 18.1 million liters.

The gains in both ice cream and ice milk production resulted, for the most part, from increases in both per capita demand and population growth. The gains, however, tended to be regional in nature. Ontario, the largest producer of frozen desserts, experienced a 6.3% increase in ice cream production and an 8.3% increase in ice milk. Ice cream production in Quebec, the second largest producer of frozen desserts, was up 1.5% while ice milk production was stable.

The remainder of the growth in these product categories is accounted for by New Brunswick, Newfoundland, Prince Edward Island and Saskatchewan (for which data are not reported separately). In contrast, production of ice cream and ice milk in Alberta, British Columbia, Manitoba and Nova Scotia were mixed. All of these provinces experienced modest declines in ice cream production and minimal decreases in ice milk production.

While ice cream and ice milk production were up, sherbet production was down a significant 22%, the first decrease since 1985. Freezer-made milkshake production also experienced a substantial 33% drop in 1988. Water ice production showed relative stability for the year.

Ice cream continued to maintain its share of the frozen dessert market at 85%, the average for the decade of the 1980s. Ice milk has edged up from 3.4% of the total frozen dessert volume in 1980 to 4.8% in 1988.

	1988 Total Production (Liters) 1/	% Change from 1987	1988 Per Capita Production (Liters) 1/	% Change from 1987
Total Ice Cream	321,264,000	+ 3.8	12.40	+ 2.8
Ice Cream - Hard	304,870,000	+ 4.5	11.76	+ 3.4
Ice Cream - Soft	16,394,000	- 6.9	.63	- 8.7
Freezer-Made Milkshake2/	19,842,000	- 32.5	.77	- 32.5
Ice Milk	18,078,000	+ 16.2	.70	+ 14.8
Water Ices	14,285,000	- 0.5	.55	- 1.8
Sherbet	2,575,000	- 22.1	.10	- 23.1
TOTAL ALL	376,044,000	+ 1.2	14.51	+ 0.1

1/ One U.S. quart equivalent to .946 liters.

2/ Freezer-made milkshake derived by applying 40% overrun to milkshake mix.

Prepared by the International Ice Cream Association from data released by Statistics Canada.

PER CAPITA AND PERCENT OF TOTAL PRODUCTION OF HARD FROZEN PRODUCTS
ICE CREAM AND ICE MILK
BY REGIONS — 1988

Product & Year	New England	Mid Atlantic	E. N. Central	W. N. Central	South Atlantic	South Central	Mountain	Pacific	United States
(Quarts per Capita)									
ICE CREAM									
1965	19.95	17.45	17.97	17.96	13.27	9.50	12.83	14.87	15.32
1970	19.81	16.43	16.63	17.82	11.17	9.96	11.81	14.41	14.47
1975	24.45	14.52	16.86	17.94	12.08	11.48	10.92	15.69	14.92
1980	21.03	14.42	15.77	19.04	11.20	10.57	11.82	15.14	14.12
1985	22.19	14.64	14.98	21.18	11.40	11.91	11.43	15.45	14.44
1986	22.56	14.86	15.05	22.26	11.70	12.21	11.81	15.56	14.71
1987	22.28	14.62	14.66	23.27	11.48	12.01	11.89	15.37	14.57
1988	21.18	14.10	13.26	21.17	10.79	11.48	11.94	14.69	13.73
ICE MILK									
1965	0.66	0.90	1.22	3.26	4.73	3.75	2.20	2.89	2.60
1970	0.99	1.51	2.24	3.95	4.16	3.35	1.96	2.39	2.64
1975	2.34	1.46	1.89	3.13	2.58	2.59	1.74	1.91	2.17
1980	1.33	0.94	1.15	2.29	1.82	1.38	1.56	1.85	1.47
1985	1.28	0.53	0.82	1.99	1.18	1.18	0.67	1.12	1.04
1986	1.52	0.66	0.86	2.43	1.20	1.30	0.67	1.04	1.12
1987	2.34	0.69	1.07	2.24	1.01	1.43	0.69	1.28	1.22
1988	2.87	0.94	1.00	2.80	1.39	1.62	1.24	1.93	1.55
(Percent of Total Production of Hard Frozen Products)									
ICE CREAM									
1965	92	91	85	79	70	54	77	68	77
1970	90	88	83	77	70	60	78	71	77
1975	88	87	85	81	78	70	80	80	81
1980	90	90	89	84	82	80	83	83	85
1985	91	92	90	87	86	84	90	89	88
1986	90	91	90	85	86	83	90	90	88
1987	87	91	89	86	88	82	90	88	87
1988	84	89	88	82	84	80	87	84	85
ICE MILK									
1965	3	5	9	14	25	21	13	13	13
1970	4	8	11	17	26	20	13	12	14
1975	8	9	10	14	17	16	13	10	12
1980	6	6	6	10	13	10	11	10	9
1985	5	3	5	8	9	8	5	6	6
1986	6	4	5	9	9	9	6	6	7
1987	9	4	6	8	8	10	5	8	7
1988	11	6	7	11	11	11	9	12	10

Prepared by International Ice Cream Association from data released by the U.S. Department of Agriculture.

SOFT SERVE PRODUCTION OF ICE CREAM AND RELATED PRODUCTS
BY REGIONS — 1988

Region	Ice Cream	Ice Milk	Sherbet	Mellorine — Type Products	Total Four Products 1/
(Thousand Gallons)					
New England	3,036	8,722	—	—	11,758
Mid Atlantic	19,240	28,690	313	—	48,243
E. N. Central	8,651	54,524	859	150	64,184
W. N. Central	605	31,066	501	—	32,172
South Atlantic	2,488	39,021	248	—	41,757
South Central	1,998	39,839	149	1,496	43,482
Mountain	1,236	19,461	473	—	21,170
Pacific	693	35,804	450	—	36,947
UNITED STATES 2/	38,012	259,132	2,993	1,646	301,783

1/ Includes ice cream, ice milk, sherbet and mellorine type products.

2/ Alaska & Hawaii included in U.S. totals only.

— No Production

Prepared by the International Ice Cream Association from data released by the U.S. Department of Agriculture.

PER CAPITA AND PERCENT OF TOTAL PRODUCTION OF SOFT SERVE PRODUCTS
ICE CREAM AND ICE MILK
BY REGIONS — 1965 - 1988

Product & Year	New England	Mid Atlantic	E. N. Central	W. N. Central	South Atlantic	South Central	Mountain	Pacific	United States
(Cents per Capita)									
<u>ICE CREAM</u>									
1965	0.11	1.29	0.22	0.04	0.13	0.07	0.05	0.02	0.33
1970	1.01	1.53	0.23	0.12	0.19	0.22	0.09	0.21	0.49
1975	0.27	1.75	0.54	1.29	0.25	0.23	0.04	0.08	0.61
1980	0.80	1.77	0.33	0.11	0.28	0.21	0.11	0.04	0.49
1985	0.69	2.19	0.61	0.18	0.63	0.20	0.18	0.12	0.66
1986	0.69	2.24	0.46	0.17	0.45	0.22	0.18	0.09	0.61
1987	1.14	2.24	0.65	0.23	0.23	0.50	0.15	0.11	0.69
1988	0.94	2.05	0.82	0.14	0.23	0.19	0.37	0.08	0.62
<u>ICE MILK</u>									
1965	1.44	1.05	2.62	3.33	1.79	1.79	3.27	3.32	2.17
1970	2.66	1.81	3.65	4.29	2.50	2.15	4.60	4.16	2.99
1975	3.00	1.94	4.60	4.57	3.28	2.55	3.44	4.04	3.38
1980	3.39	2.17	4.99	5.05	3.67	3.01	4.67	3.63	3.70
1985	3.12	2.40	4.39	6.58	3.87	3.94	5.16	4.11	4.01
1986	2.96	2.83	4.88	5.68	4.09	3.75	5.43	4.06	4.10
1987	2.63	3.00	4.74	7.11	4.00	3.90	5.26	3.88	4.16
1988	2.69	3.05	5.18	7.00	3.68	3.77	5.84	4.01	4.22
(Percent of Total Production of Soft Serve Products)									
<u>ICE CREAM</u>									
1965	7	55	8	1	7	3	2	1	13
1970	27	46	6	3	7	7	2	5	13
1975	8	47	10	21	7	7	1	2	15
1980	19	45	6	2	7	6	2	1	11
1985	18	47	12	3	14	5	3	3	14
1986	19	44	9	3	10	5	3	2	13
1987	31	44	12	3	6	12	3	3	15
1988	26	40	13	2	6	5	6	2	13
<u>ICE MILK</u>									
1965	93	44	92	99	93	79	98	99	84
1970	72	54	86	92	93	67	98	94	80
1975	92	52	87	76	91	76	99	96	81
1980	81	55	91	94	91	90	97	99	87
1985	81	52	86	96	85	93	95	96	85
1986	81	56	90	96	89	93	96	97	86
1987	68	55	86	94	93	85	94	96	83
1988	74	59	85	97	93	92	92	97	86

Prepared by the International Ice Cream Association from data released by the U.S. Department of Agriculture.

MONTHLY PRODUCTION OF ICE CREAM AND RELATED PRODUCTS — CANADA
1988

Month	Ice Cream		Total	Freezer-made	Ice Milk	Sherbet	Water ices	Total All Products
	Hard	Soft		Milkshake 1/				
	(Thousand Liters) 2/							
January	18,364	470	18,834	1,074	622	200	420	21,150
February	20,544	471	21,015	1,172	915	219	729	24,050
March	24,397	647	25,044	1,696	1,413	199	1,292	29,644
April	24,941	1,303	26,244	1,517	1,703	230	1,895	31,589
May	29,605	2,477	32,082	1,910	2,303	237	2,338	38,870
June	35,123	3,000	38,123	2,211	2,686	271	2,317	45,608
July	33,801	3,067	36,868	2,290	2,301	293	2,423	44,175
August	31,527	2,154	33,681	2,101	1,815	269	1,671	39,537
September	24,534	1,178	25,712	1,593	1,403	224	672	29,604
October	20,535	776	21,311	1,375	1,121	185	282	24,274
November	20,911	495	21,406	1,305	847	96	152	23,806
December	20,588	356	20,944	1,598	949	152	94	23,737
YEAR	304,870	16,394	321,264	19,842	18,078	2,575	14,285	376,044

1/ Freezer-made milkshake derived by applying 40% overrun to milkshake mix.

2/ One U.S. quart equivalent to .946 liter.

Prepared by the International Ice Cream Association from data released by Statistics Canada.

INTERNATIONAL STATISTICS

Selected Countries

This section includes data for 42 countries, including United States and Canada. In some countries, production is reported only by the large manufacturers and no estimates are available for the output by small establishments. In such instances, the computed production and per capita are incomplete but the reported figures indicate trends.

Country and Product	ANNUAL PRODUCTION		PER CAPITA PRODUCTION	
	In Reported Units	Converted to U.S. Gallons	In Reported Units	Converted to U.S. Pints
UNITED STATES - 1988				
Ice Cream		881,522,000		28.70
Ice Milk		354,246,000		11.52
Sherbet		52,155,000		1.70
Water Ices		50,347,000		1.64
Mellorine		9,988,000		.32
Other Frozen Dairy Products		39,013,000		1.26
Total		1,387,271,000		45.14
ARGENTINA - 1986				
	(Liters)		(Liters)	
Ice Cream	41,020,000	10,837,000	1.32	2.78
Ice Milk	10,130,000	2,676,000	0.32	0.68
Sherbet & Water Ices	4,450,000	1,176,000	0.14	0.30
Others	1,220,000	322,000	0.04	0.08
Total	56,820,000	15,011,000	1.82	3.84
AUSTRALIA - 1987				
	(Liters)		(Liters)	
Ice Cream	207,758,000	54,890,000	12.79	27.00
Milk Ice	49,767,000	13,148,000	3.06	6.47
Water Ices	13,875,000	3,666,000	0.85	1.80
Other 1/	18,085,000	4,778,000	1.11	2.35
Total	289,485,000	76,482,000	17.81	37.62
AUSTRIA - 1987				
	(Liters)		(Liters)	
Ice Cream	36,000,000	9,511,000	4.75	10.04
Sherbet & Water Ices	11,600,000	3,065,000	1.53	3.23
Total	47,600,000	12,576,000	6.28	13.27
BELGIUM - 1988				
	(Liters)		(Liters)	
Ice Cream	94,350,000	24,927,000	9.56	20.18
CANADA - 1988				
	(Liters)		(Liters)	
Ice Cream	321,264,000	84,878,000	12.40	26.18
Freezer-made Milkshakes2/	19,842,000	5,242,000	.77	1.63
Ice Milk	18,078,000	4,776,000	.70	1.48
Water Ices	14,285,000	3,774,000	.55	1.16
Sherbet	2,575,000	680,000	.10	.21
Total	376,044,000	99,350,000	14.51	30.66
CHILE - 1986				
	(Liters)		(Liters)	
Ice Cream & Related Products	29,000,000	7,662,000	2.37	4.99

INTERNATIONAL STATISTICS

Country and Product	ANNUAL PRODUCTION		PER CAPITA PRODUCTION	
	In Reported Units	Converted to U.S. Gallons	In Reported Units	Converted to U.S. Pints
COLUMBIA - 1987	(Metric Tons)		(Kilograms)	
Ice Cream	12,300	6,027,000	0.44	1.72
Sherbet	1,030	378,500	0.04	0.12
Water Ices	820	301,400	0.03	0.09
Total	14,150	6,706,900	0.51	1.93
CZECHOSLOVAKIA - 1987	(Liters)		(Liters)	
Total Frozen Dairy Products	48,465,000	12,804,000	3.10	6.54
DENMARK - 1988	(Liters)		(Liters)	
Ice Cream	41,000,000	10,832,000	8.05	17.00
Water Ices	2,800,000	740,000	0.55	1.16
Total	43,800,000	11,572,000	8.60	18.16
EGYPT - 1988	(Metric Tons)		(Kilograms)	
Ice Cream	9,617,000	2,541,000	0.24	0.94
FINLAND - 1987	(Metric Tons)		(Kilograms)	
Ice Cream	53,000	25,970,000	10.74	42.10
FRANCE - 1986	(Liters)		(Liters)	
Ice Cream - Industrial	209,158,000	55,260,000	3.78	7.97
WEST GERMANY - 1987	(Liters)		(Liters)	
Ice Cream - Industrial	343,600,000	90,779,000	5.63	11.90
Small Establishments	95,000,000	25,099,000	1.56	3.29
Total	438,600,000	115,878,000	7.19	15.19
HONG KONG - 1987				
Ice Cream		4,500,000		8.04
Sherbet		100,000		0.17
Water Ices		950,000		1.70
Total		5,550,000		9.91
HUNGARY - 1988	(Metric Tons)		(Kilograms)	
Ice Cream	19,000	9,310,000	1.80	7.06
ITALY - 1987	(Metric Tons)		(Kilograms)	
Ice Cream - Industrial	191,100	93,639,000	3.33	13.06
Small Establishments	100,000	49,000,000	1.74	6.82
Total	291,100	142,639,000	5.07	19.88
IVORY COAST - 1986	(Metric Tons)		(Kilograms)	
Ice Cream & Related Products	7,400	3,626,000	0.70	2.76

INTERNATIONAL STATISTICS

Country and Product	ANNUAL PRODUCTION		PER CAPITA PRODUCTION	
	In Reported Units	Converted to U.S. Gallons	In Reported Units	Converted to U.S. Pints
JAPAN - 1985	(Liters)		(Liters)	
Ice Cream	195,000,000	51,519,000	1.62	3.41
Ice Milk	60,000,000	15,852,000	0.50	1.05
Lacto ices	326,000,000	86,129,000	2.70	5.70
Water Ices	319,000,000	84,280,000	2.64	5.58
Total	900,000,000	237,780,000	7.46	15.74
KENYA - 1987	(Liters)		(Liters)	
Ice Cream	800,000	211,360	0.04	0.08
Milk Ices	85,000	22,457	—	0.01
Soft Serve	250,000	66,050	0.01	0.02
Water Ices	180,000	47,556	0.01	0.02
Total	1,315,000	347,423	0.06	0.13
KOREA - 1988	(Liters)		(Liters)	
Ice Cream	82,024,000	21,671,000	1.89	3.99
LUXEMBOURG - 1986	(Liters)		(Liters)	
Ice Cream	2,500,000	660,500	6.85	14.46
MALAYSIA - 1987	(Liters)		(Liters)	
Ice Cream	6,658,000	1,759,000	0.41	0.87
Bars & Popsicles	14,533,000	3,840,000	0.89	1.88
Total	21,191,000	5,599,000	1.30	2.75
NEW ZEALAND - 1987	(Liters)		(Liters)	
Ice Cream	46,567,000	12,303,000	14.05	29.67
Soft Serve	4,854,000	1,282,000	1.47	3.09
Total	51,421,000	13,585,000	15.52	32.76
NIGERIA - 1988	(Liters)		(Liters)	
Ice Cream	3,500,000	925,000	0.03	0.06
NORWAY - 1988	(Liters)		(Liters)	
Ice Cream	47,979,000	12,676,000	11.9	25.13
Soft Ice Cream	2,566,000	678,000	0.06	1.27
Sherbet	2,686,000	710,000	0.7	1.48
Total	53,231,000	14,064,000	13.2	27.88
PAKISTAN - 1986	(Metric Tons)		(Kilograms)	
Ice Cream	26,500	12,985,000	0.27	1.06
Ice Milk	8,700	4,263,000	0.09	0.35
Sherbet	12,800	4,704,000	0.13	0.38
Total	48,000	21,952,000	0.49	1.79
PERU - 1987	(Metric Tons)		(Kilograms)	
Ice Cream	8,155	3,996,000	0.39	1.53
Water Ices	423	155,500	0.02	0.06
Sherbet	104	38,000	—	0.01
Total	8,682	4,189,500	0.41	1.60

INTERNATIONAL STATISTICS

Country and Product	ANNUAL PRODUCTION		PER CAPITA PRODUCTION	
	In Reported Units	Converted to U.S. Gallons	In Reported Units	Converted to U.S. Pints
POLAND - 1988	(Metric Tons)		(Kilograms)	
Ice Cream	35,000	17,150,000	.92	3.61
PORTUGAL - 1987	(Kilograms)		(Kilograms)	
Ice Cream & Related Products	12,310,000	6,031,900	1.18	4.63
SAUDI ARABIA - 1987	(Liters)		(Liters)	
Ice Cream	24,500,000	6,473,000	1.65	3.50
SOUTH AFRICA - 1988	(Liters)		(Liters)	
Ice Cream	19,305,000	5,100,000	0.50	1.06
Sherbet	25,852,000	6,830,000	0.67	1.41
Soft Serve	5,574,000	1,473,000	0.14	0.30
Water Ices	2,984,000	788,000	0.08	.17
Milk Ices	3,745,000	989,000	0.10	.21
Total	57,460,000	15,181,000	1.49	3.15
SPAIN - 1986	(Liters)		(Liters)	
Ice Cream	102,440,000	27,064,600	2.65	5.60
Water Ices	33,160,000	8,760,800	0.85	1.79
Total	135,600,000	35,825,400	3.50	7.39
SWEDEN - 1987	(Liters)		(Liters)	
Ice Cream (Hard)	104,670,000	27,654,000	12.46	26.31
Water Ices	6,790,000	1,794,000	0.81	1.71
Soft Ice Cream	7,300,000	1,929,000	0.87	1.84
Total	118,760,000	31,377,000	14.14	29.86
SWITZERLAND - 1987	(Liters)		(Liters)	
Ice Cream and Related Products	48,200,000	12,734,000	7.33	15.48
TAIWAN - 1987	(Metric Tons)		(Kilograms)	
Ice Cream	12,387	6,070,000	0.62	2.46
Novelties	1,980	970,000	0.10	0.39
Total	14,367	7,040,000	0.72	2.85
TURKEY - 1988	(Liters)		(Liters)	
Ice Cream and Related Products	49,700,000	13,131,000	0.91	3.57
UNITED ARAB EMIRATES - 1987	(Liters)		(Liters)	
Ice Cream	5,864,000	1,549,300	3.18	6.71
Ice Milk	1,340,000	354,000	0.72	1.53
Water Ices	1,252,000	330,800	0.67	1.43
Other	49,000	12,900	0.02	0.06
Total	8,505,000	2,247,000	4.59	9.73

INTERNATIONAL STATISTICS

Country and Product	ANNUAL PRODUCTION		PER CAPITA PRODUCTION	
	In Reported Units	Converted to U.S. Gallons	In Reported Units	Converted to U.S. Pints
UNITED KINGDOM - 1988	(Liters)		(Liters)	
Bulk	102,059,000	26,964,000	1.79	3.78
Soft Ice Cream Mix 3/	7,926,000	2,094,000	0.14	0.30
Home Packs	107,765,000	28,472,000	1.89	3.99
Water Ices	18,929,000	5,001,000	0.33	0.70
Other Stick Confections	15,227,000	4,023,000	0.27	0.57
All Other	49,666,000	13,122,000	0.87	1.84
Total	301,572,000	79,676,000	5.29	11.18
URUGUAY - 1986	(Liters)		(Liters)	
Ice Cream and Related Products	3,500,000	924,700	1.19	2.51
USSR - 1987	(Metric Tons)		(Kilograms)	
Ice Cream	667,000	326,830,000	2.31	9.06
VENEZUELA - 1987	(Liters)		(Liters)	
Ice Cream	4,500,000	1,188,900	0.25	0.52
Ice Milk	15,000,000	3,963,000	0.82	1.73
Sherbet & Water Ices	10,000,000	2,642,000	0.55	1.15
Total	29,500,000	7,793,900	1.62	3.40
YUGOSLAVIA - 1988	(Metric Tons)		(Kilograms)	
Ice Cream - Industrial	21,300	10,437,000	0.90	3.53
Small Establishments	7,100	3,479,000	0.30	1.18
Total	28,400	13,916,000	1.20	4.71

1/ Includes aerated milk-based confections and milk-based mixes for soft serves and thick shakes.

2/ Freezer-made milkshake derived by applying 40% overrun in milkshake base.

3/ Converted into ready-made soft ice cream.

CONVERSION FACTORS:

1 Liter = .2642 U.S. Gallons

= 2.1114 U.S. Pints

1 U.S. Gallon of Ice Cream or Ice Milk = 4.5 Pounds

1 U.S. Gallon of Sherbet or Water Ices = 6.0 Pounds

1 Kilogram = 2.205 Pounds

= .4900 U.S. Gallons of Ice Cream or Ice Milk

= .3675 U.S. Gallons of Sherbet or Water Ices

= 3.920 U.S. Pints of Ice Cream or Ice Milk

= 2.940 U.S. Pints of Sherbet or Water Ices

1 Metric Ton (1,000 Kilograms) = 2,205 Pounds

= 490.0 U.S. Gallons of Ice Cream or Ice Milk

= 367.5 U.S. Gallons of Sherbet or Water Ices

Prepared by the International Ice Cream Association from data supplied by Agriculture Attaches of the U.S. Department of Agriculture, or from government or trade statistics.

PRODUCTION OF ICE CREAM AND RELATED PRODUCTS — CANADA
1972 — 1988

Year	Hard	Ice Cream Soft	Total	Freezer-made Milkshake 1/ (Thousand Liters 2/)	Ice Milk	Sherbet	Water Ices	Total All Products
1972	258,851	18,066	276,917	9,369	13,674	3,701	13,588	317,249
1973	256,954	18,221	275,175	10,304	13,879	3,914	15,402	318,674
1974	259,164	18,580	277,744	12,003	11,429	3,841	11,583	316,600
1975	266,515	20,717	287,232	11,820	12,675	3,337	12,602	327,666
1976	258,850	20,721	279,571	13,219	14,084	3,578	11,665	322,117
1977	269,637	21,536	291,173	15,364	15,219	3,122	11,398	336,276
1978	266,150	21,465	287,615	14,718	15,158	3,528	11,786	332,805
1979	289,748	17,921	307,669	24,112	12,130	3,664	12,744	360,319
1980	295,215	16,718	311,933	26,803	12,446	3,170	12,924	367,276
1981	292,421	19,549	311,970	28,094	13,429	2,900	13,074	369,467
1982	284,898	18,541	303,439	27,391	13,345	2,486	14,249	360,910
1983	293,784	17,805	311,589	28,164	13,435	3,194	16,266	372,648
1984	283,996	17,209	301,205	26,244	16,929	2,900	19,496	366,774
1985	292,667	17,540	310,207	28,869	16,481	2,556	15,886	373,999
1986	300,394	17,727	318,121	31,078	17,432	2,580	17,285	386,496
1987	293,458	17,561	311,019	29,386	15,561	3,306	14,363	373,635
1988	304,870	16,394	321,264	19,842	18,078	2,575	14,285	376,044

1/ Freezer-made milkshakes derived by applying 40% overrun in milkshake mix.

2/ One U.S. quart equivalent to .946 liter.

Prepared by the International Ice Cream Association from data released by Statistics Canada.

PER CAPITA PRODUCTION OF ICE CREAM — CANADA
BY PROVINCES — 1975-1988

Province	1975	1980	1983	1984	1985	1986	1987	1988
				(Liters) 1/				
Alberta	17.12	14.59	14.74	15.50	16.19	16.68	15.25	14.78
British Columbia	13.71	14.44	12.49	10.71	11.02	11.16	11.07	10.14
Manitoba	18.65	20.43	19.98	18.27	17.46	15.84	15.81	14.95
Nova Scotia	15.60	13.96	13.50	12.99	12.55	12.68	13.26	13.27
Ontario	11.22	13.06	13.60	12.86	13.54	13.90	13.06	13.67
Quebec	12.46	12.35	10.82	10.65	10.68	11.07	11.12	10.95
CANADA 2/	13.06	13.38	12.56	12.05	12.32	12.51	12.13	12.40

1/ One U.S. quart equivalent to .946 liter.

2/ Includes production in New Brunswick, Newfoundland, Prince Edward Island and Saskatchewan which could not be reported separately.

Prepared by the International Ice Cream Association from data released by Statistics Canada.

PRODUCTION OF HARD AND SOFT ICE CREAM - CANADA
BY PROVINCES - 1986-1987-1988

Province	Year	Hard	Production Soft	Total	Hard	Soft
			(Thousand Liters) 1/			(Percent)
Alberta	1986	36,243	3,397	39,640	91	9
	1987	33,208	3,083	36,291	92	8
	1988	32,411	2,991	35,402	92	8
British Columbia	1986	28,434	3,839	32,273	88	12
	1987	28,559	3,828	32,387	88	12
	1988	26,663	3,580	30,243	88	12
Manitoba	1986	15,267	1,705	16,962	90	10
	1987	15,412	1,660	17,072	90	10
	1988	14,595	1,615	16,210	90	10
Nova Scotia	1986	10,127	954	11,081	91	9
	1987	10,643	998	11,641	91	9
	1988	10,721	996	11,717	91	9
Ontario	1986	124,583	2,238	126,821	98	2
	1987	119,098	2,079	121,177	98	2
	1988	126,604	2,251	128,855	98	2
Quebec	1986	68,511	3,932	72,443	95	5
	1987	67,136	4,588	71,724	94	6
	1988	68,156	4,555	72,711	94	6
CANADA 2/	1986	300,394	17,727	318,121	94	6
	1987	291,761	17,613	309,374	94	6
	1988	304,870	16,394	321,264	95	5

1/ One U.S. quart equivalent to .946 liter.

2/ Includes production in New Brunswick, Newfoundland, Prince Edward Island and Saskatchewan which could not be reported separately.

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